



**SAMPLING VISIT REPORT FOR THE
GENERAL MOTORS CORPORATION
TRUCK AND BUS PLANT
PONTIAC, MICHIGAN**

prepared for

U. S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

prepared by

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EPA Contract No. 88-01-7038
Work Assignment Number R05-02-48

October, 1987

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1.0 INTRODUCTION

On September 1, 1987, the A. T. Kearney team conducted a RCRA Facility Assessment (RFA) Sampling Visit (SV) at the General Motors Truck and Bus Plant in Pontiac, Michigan. Field sampling was conducted by K. C. Donnelly and Steve Swetish from K. W. Brown & Associates, Inc. (KWB&A). Elani Gray, from Harding Lawson and Associates, served as the Quality Assurance Officer, and Carol Witt of USEPA Region V, served as the Technical Monitor. The facility contacts were Dan Harrett and Dan Carmichael.

The purpose of the SV was to collect samples from areas of suspected or known releases in accordance with the approved sampling plan. The sampling plan contains detailed discussions on sample media, sampling locations and depths, sampling procedures, and field sampling quality assurance protocols. Field sampling operations, sample descriptions, locations, quality control information, and deviations from the sampling plan were documented at the time samples were taken. Slight deviations from the sampling plan were incorporated to accommodate site conditions and were approved by Carol Witt. These deviations from the approved sampling plan were documented in the field activity logbook and are discussed in detail in this report.

2.0 SITE CONDITIONS

The sampling team arrived at the facility on September 1, at 8:30 a.m. Weather conditions were fair to partly cloudy, with temperatures between 65 and 75°.

3.0 SUMMARY OF SAMPLING VISIT

The RFA sampling team and the EPA Technical Monitor reviewed the planned sampling locations and general procedures the night of August 31. At this time no significant modifications to the sampling plan were anticipated.

Winds were calm to variable. After meeting Dan Harrett of GMC at the guard station, a brief meeting with the facility contacts, including Dan Harrett, Dan Carmichael, and Rick Simpson, was held in a GMC conference room. The sampling team then proceeded toward the former location of the cyanide destruction area (Building 13). Upon inspection of the area, the sampling team decided that it was not feasible to collect a sample during the sampling visit. The sampling team then proceeded to the wastewater treatment plant to allow facility personnel to gather containers for collection of split samples.

The first background sampling area was located beneath a large metal electric transmission tower approximately 100 yards west of the Pontiac Central main office. Approximately 8 inches of mulch and 3 inches of surface soil were removed before collection of the first background sample from the 11 to 18 inch soil layer. The soil collected was a brownish gray sandy loam. The second background sampling area was located approximately 200 yards south of the North retention pond in an area that was between several large trees and did not show any signs of industrial activities. However, a small piece of red plastic (possibly a piece of a taillight assembly) was uncovered in the soil, indicating that the soil may have been fill from another area. The surface to 6 inches of soil were removed prior to sampling the 6 to 12 inch soil layer. The soil collected was a brownish yellow clay loam. The third sample collected was from the ditch adjacent

to the North retention pond (SWMU #34). This was a sediment sample collected directly with the sample container and was collected approximately 24 feet south of the fence surrounding the retention pond.

The fourth and fifth samples were collected from the area of the South retention pond (SWMU #33). A background sample was collected from an area east of the South retention pond. Approximately 2 inches of surface soil were removed prior to the collection of the 2 to 6 inch soil layer. This soil was a brownish gray clay loam. The sample collected from the South retention was a sediment sample collected directly in the sample container from an area approximately 6 feet east of the influent pipe to the retention pond. The sixth sample was a 0 to 12 inch core from the old surface impoundment (SWMU #31). This sample was planned to be a core from 3 to 5 feet, however, upon inspection of the impoundment area it was observed that the black sludge-like material was present on the surface only, and that a yellow-gray sand was encountered at approximately 8 inches.

The wastewater treatment tank area (SWMU #29) was inspected for a suitable location to collect a soil sample. The location selected by the sampling team and approved by the EPA technical monitor was an area of stained soil adjacent to tank #1. Following the collection of this sample, Steve Swetish and K. C. Donnelly investigated the air quality of the area surrounding the active container storage unit at Pontiac Central. After a thorough inspection, it was determined that it would be safe to sample the area. The maximum reading obtained on the Photovac TIP was approximately 11 ppm above the ambient level. This reading was obtained within the container storage unit (SWMU #1) at ground level. Three soil samples were collected from behind the container storage unit. These included one core

from 1 to 8 inches, a core from 2 to 9 inches, and a core from 2 to 8 inches. After the second core from the container storage unit was taken, the EPA Technical Monitor requested that a sample be collected from the ditch adjacent to the container storage unit. This sample was a sediment sample, and was collected approximately 30 feet southeast of the container storage unit.

Upon completion of sampling activities, the sampling team decontaminated all sampling equipment and prepared it for shipping. Sampling activities were completed at approximately 5:15 p.m. At that time the sampling team left the facility to obtain ice for the samples, and to complete the custody forms and photograph the samples. Samples were shipped from the Federal Express office at the Detroit airport the following day.

4.0 SAMPLING LOCATIONS

The sampling locations were chosen in accordance with the approved sampling plan, with one modification approved by Carol Witt. Sample locations are shown in Figure 1.

The placement of sampling sites on the facility map was made by pacing distances from nearby landmarks. Location measurements can be found in the attached copy of the field logbook. The attached photographic log provides visual documentation of sampling locations (Attachment A).

The order of sampling involved first collecting two background samples, followed by the North retention pond. The third background sample was next, followed by the South retention pond. All background samples were collected using clean stainless steel sleeves for the auger, and were collected prior to using the auger in waste management areas. The old surface impoundment was the sixth sample collected, followed by the soil

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Management
Consultants

October 23, 1987

ATKEARNEY

Ms. Pat Vogtman
Regional Project Officer
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, IL 60604

Reference: EPA Contract No. 68-01-7038; Work Assignment
No. R05-02-48, GMC Truck and Bus Sampling
Visit Report

Dear Ms. Vogtman:

Enclosed please find the Sampling Visit (SV) Report for the GMC Truck and Bus facility. The laboratory is in the process of finalizing the analytical work for this site and the data will be forwarded to you as soon as we receive it. Please forward a copy of this report to the Technical Monitor, Carol Witt.

If you or Carol have any questions, please feel free to call me or Marvin Unger, the Work Assignment Manager (who can be reached at 409/690-9280).

Sincerely,


Gayle Kline
Technical Director

Enclosure

cc: J. Grieve
J. Levin
M. Unger, KWB

1086e-AM

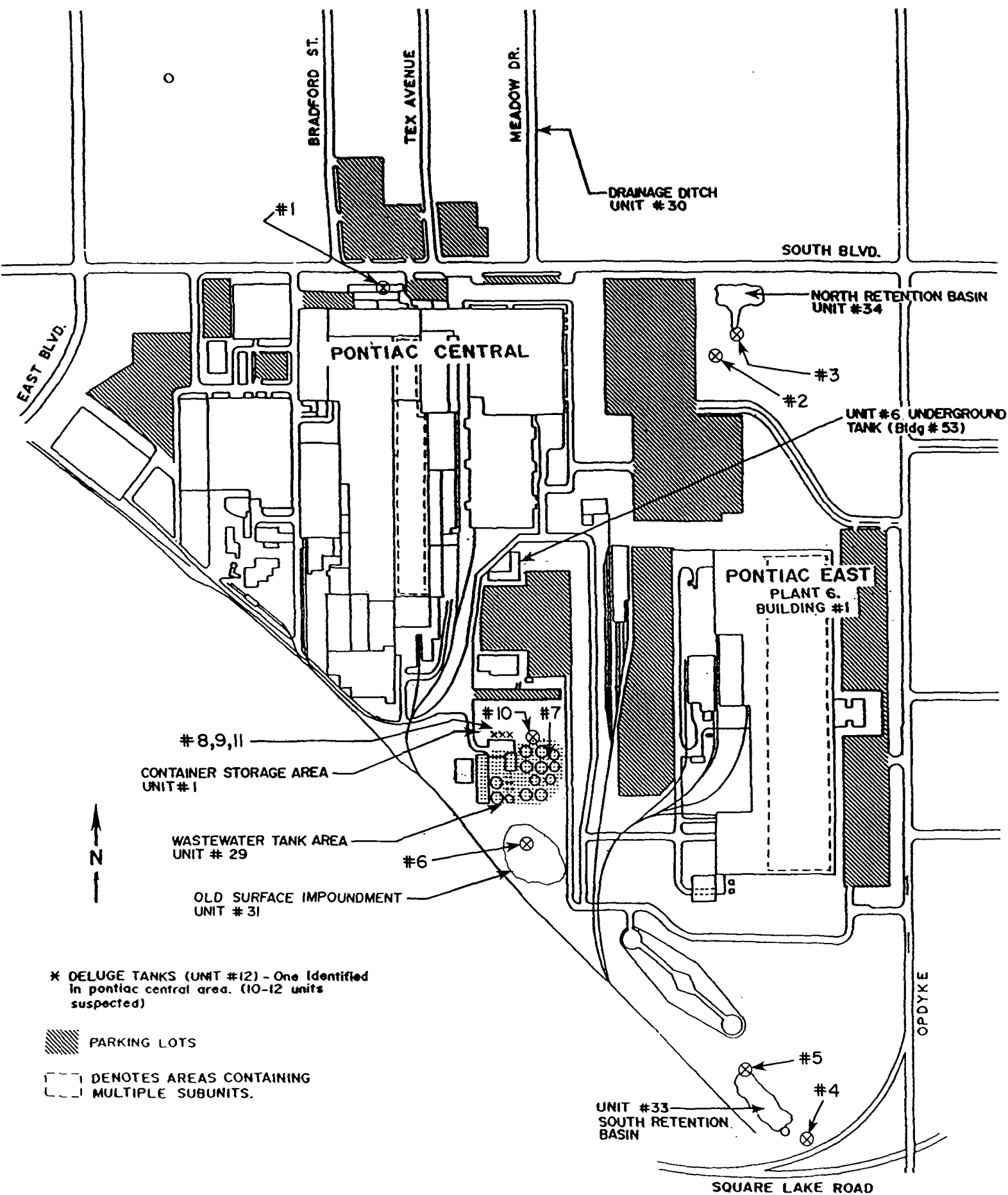


FIGURE I. GMC SAMPLING LOCATIONS.

adjacent to the wastewater treatment tanks, the three samples from the container storage unit at Pontiac Central, and a sediment sample from the ditch adjacent to the container storage unit.

5.0 SAMPLING ACTIVITIES

5.1 SAMPLING PROCEDURES

The sampling team made every effort to follow the sampling procedures for soils and sediment which were described in the approved sampling plan and to collect representative samples. There were a few minor deviations from the plan, each of which were approved by Carol Witt and Elani Gray prior to actual sampling. Sample identification and deviations from the sampling plan are found in Table 1.

5.2 SAMPLE CONTAINERS

Precleaned sample containers were provided by Joe Matta of Environmental Monitoring Services, Inc. All sample bottles were glass with teflon lined lids. Each bottle was labelled with a label provided by the lab and received a unique sample number which was cross-referenced to the appropriate chain-of-custody form. For each sample collected for organics and inorganics analysis, two 40 ml vials were filled with soil or sediment for analysis of VOAs, and one 250 ml bottle was filled for organic and inorganic analysis. For the samples which were to be analyzed only for metals and cyanide, one 250 ml bottle was filled with soil or sediment. The numbers, types and sizes of containers used followed those described in the Region V QAPP.

5.3 EQUIPMENT DECONTAMINATION

Equipment used for sample collection was precleaned prior to the sample visit. With the exception of items which were dedicated to each

Table 1. Sampling Locations, Identification Numbers, and Deviations from Sampling Plan.

Location	Sample Number	Sampling Method (Planned)	Sampling Method (Actual)	Notes
Container Storage Unit (SWMU #1)	KWB008, 009, 011	Auger 0-1 ft	Same	
Old Surface Impoundment (SWMU #31)	KWB006	Auger 0-5 ft	Same	Surface to approx. 8" collected
South Retention Pond (SWMU #33)	KWB005	Auger grab	Grab sample with container	
North Retention Pond	KWB003	Auger grab	Grab sample with container	
Wastewater Tank Area	KWB007	Auger 0-1 ft	Grab sample with scoop	
Cyanide Destruction Area	--	Auger 0-3 ft	Not sampled	Area beneath concrete slab
Ditch Adjacent to CSU	KWB010	Not scheduled	Grab sample with container	
Background Soil	KWB001, 002, 004	Auger 0-1 ft	Grab sample with container	

location (auger sleeves, spatulas, and gloves), the equipment was decontaminated after each sampling episode following procedures described in the sampling plan. As approved by EPA and facility representatives, dedicated materials and waste were left at the site for disposal by the facility.

5.4 SAMPLE SHIPMENT

At the conclusion of the sampling visit September 1, the sample bottles were placed inside an ice chest and iced down for temporary storage. At the hotel that night each sample was placed inside a zip-lock

plastic bag and wrapped in a protective bubble pack. The baggie and sample were then placed back into the ice chest. A chain-of-custody form detailing the unique sample number, date and time of collection, number and type of sample containers and analyses requested was completed for all samples (Attachment B). The chain-of-custody form was sealed inside a zip-lock bag and taped to the lid inside the ice chest. The ice chest was shipped from the Federal Express office at the Detroit Metropolitan Airport at approximately 11:30 a.m. on September 2 for next day delivery to Environmental Monitoring Services, Inc.

6.0 QUALITY CONTROL

Quality control procedures were followed, and all samples were collected as outlined in the approved sampling plan or as approved by the quality control officer. Detailed soil descriptions were compiled in the field for all soil and sediment samples collected. These descriptions are found in the attached copy of the field logbook (Attachment C). Other items in the field logbook are essentially the same as those listed on the field log sheets found in Appendix D of the Region V QAPP. A field logbook is preferred over the log sheets because it provides a permanent record of field activities by using weather-resistant paper bound into a field book. The photographic log of the sampling locations, sampling activities, and samples was prepared by the quality control officer (Attachment A).

To assure custody of samples during transport and shipping, each sample within the ice chest was recorded on a chain-of-custody record. To ensure that the samples were not tampered with during shipment, the ice chest was securely sealed prior to transport to the Federal Express office.

To prevent inadvertent mixing of samples in the field or laboratory, unique sample numbers were cross-referenced among the sample labels, the field logbook, and the chain-of-custody records.

A quality assurance report of the sampling visit was prepared by Elani Gray, quality assurance officer. A copy of her report is included in Attachment D.

7.0 SUMMARY

Except for the deviations outlined in this report, the General Motors Truck and Bus Plant sampling visit was conducted in accordance with the approved sampling plan.

ATTACHMENT A
Photo Log



1. First background sampling location, under electrical tower at front lawn picnic area, facing south (001).



2. Soil sampling equipment at first sampling location.



3. Collecting VOA sample with push tube (001).



4. Filling VOA container (001).



5. Collection of sample with 3-inch stainless steel auger (001).



6. Filling 250 ml container (001).



7. Background location #1 borehole (001).



8. Equipment decontamination.



9. Second background sampling location, opposite north retention basin, facing northeast (002).



10. Preparation of sampling site.



11. Collection of VOA sample with push tube (002).



12. Background location #2 borehole.



13. Drum located in north retention pond.



14. Collection of sample from ditch leading to north retention pond (003).



15. Collection of sediment sample from ditch leading to north retention pond (003).



16. Location of north retention pond ditch sample (003), facing northeast.



17. Ditch leading to north retention basin from top of hill, facing northeast (003).



18. Third background sampling location, facing north toward south retention basin (004).



19. Background location #3 borehole (004).



20. South retention pond sampling location, facing north (005).



21. Collection of sediment sample from south retention pond (005).



22. South retention pond, facing southeast.



23. South retention pond sampling location (005).



24. South retention pond location (near outfall), facing southeast (005).



25. Old surface impoundment #31, facing south.



26. Collection of sample from old surface impoundment (006).



27. Collection of sample from old surface impoundment (006).



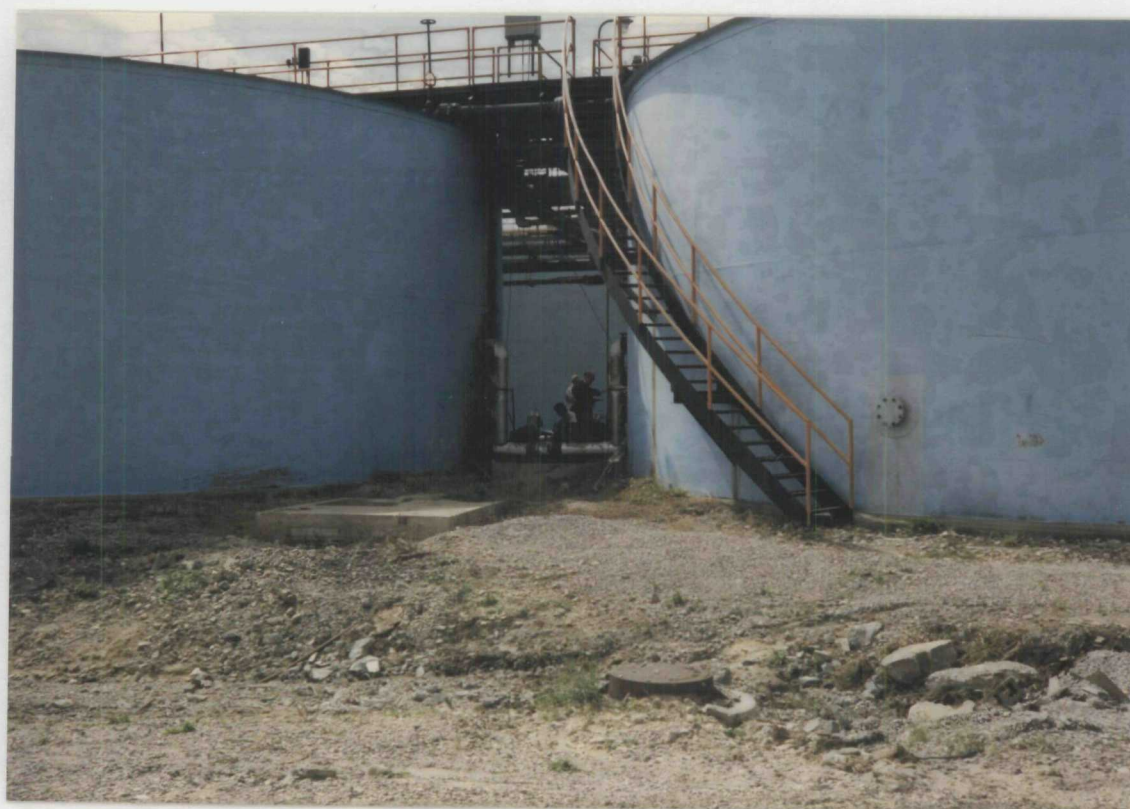
28. Old surface impoundment sampling location borehole (006).
Note visible contamination on ground.



29. Wastewater Treatment Area - Unit 29, Acid Tank #1.
Collection of surface sample (007).



30. Wastewater Treatment Area - Unit 29, Acid Tank #1.
Sampling location (007), facing west.



31. Wastewater Treatment Area - Unit 29, Acid Tank #1.
Sampling location (007), facing west.



32. Wastewater Treatment Area - Unit 29, Acid Tank #1.
Collection of surface sample (007).



33. Container storage area, facing east.



34. Container storage area, facing west.



35. Container storage area, sampling location #1 (008).



36. Container storage area, sampling location #1, collection of sample (008).



37. Container storage area, sampling location #1 borehole (008), facing south.



38. Container storage area, sampling location #2, collecting sample (009).



39. Container storage area, sampling location #2 borehole (009), facing south.



40. Ditch by container storage area, collecting sample (010), facing east.



41. Ditch by container storage area, collecting sample (010), facing east.



42. Ditch by container storage area, sampling (010) location.

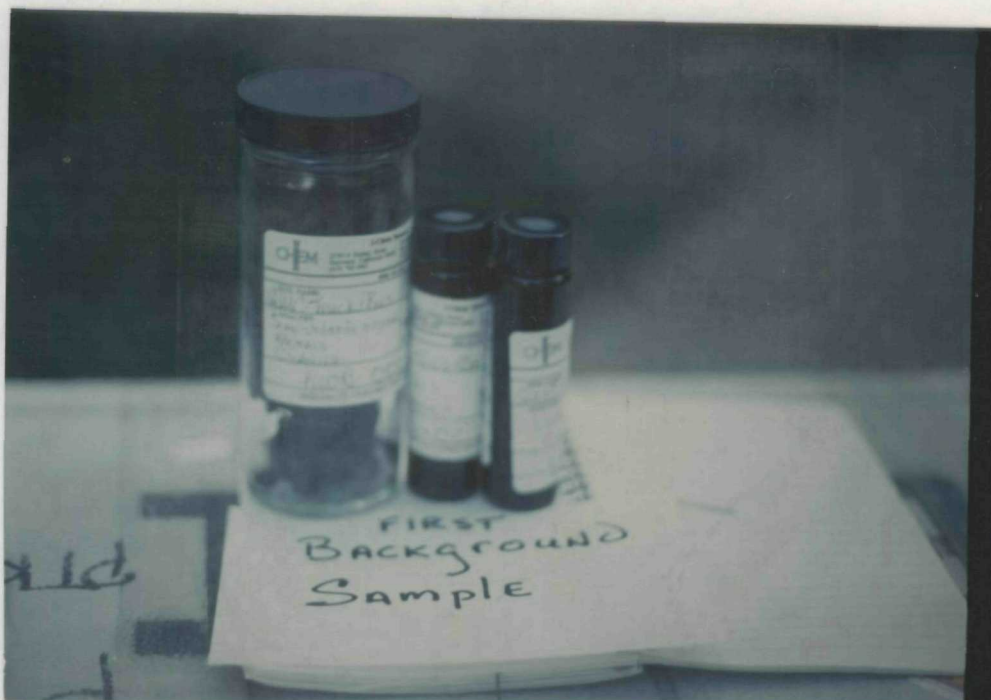


43. Container storage area, sampling location #3, collecting surface sample (011).

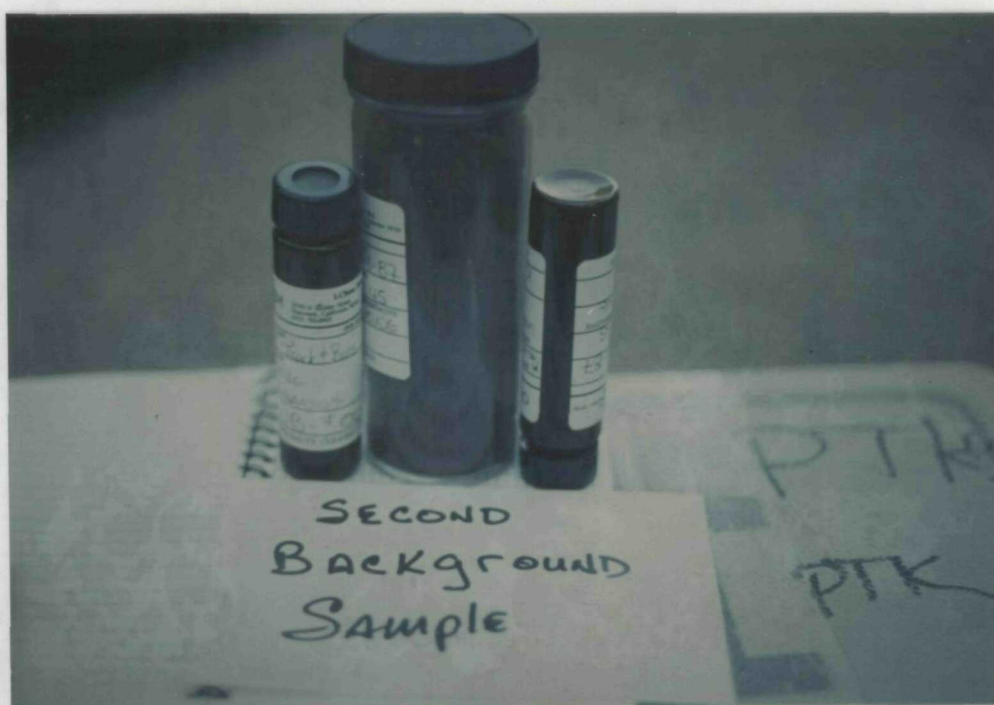


44. Container storage area, sampling location #3, facing south.

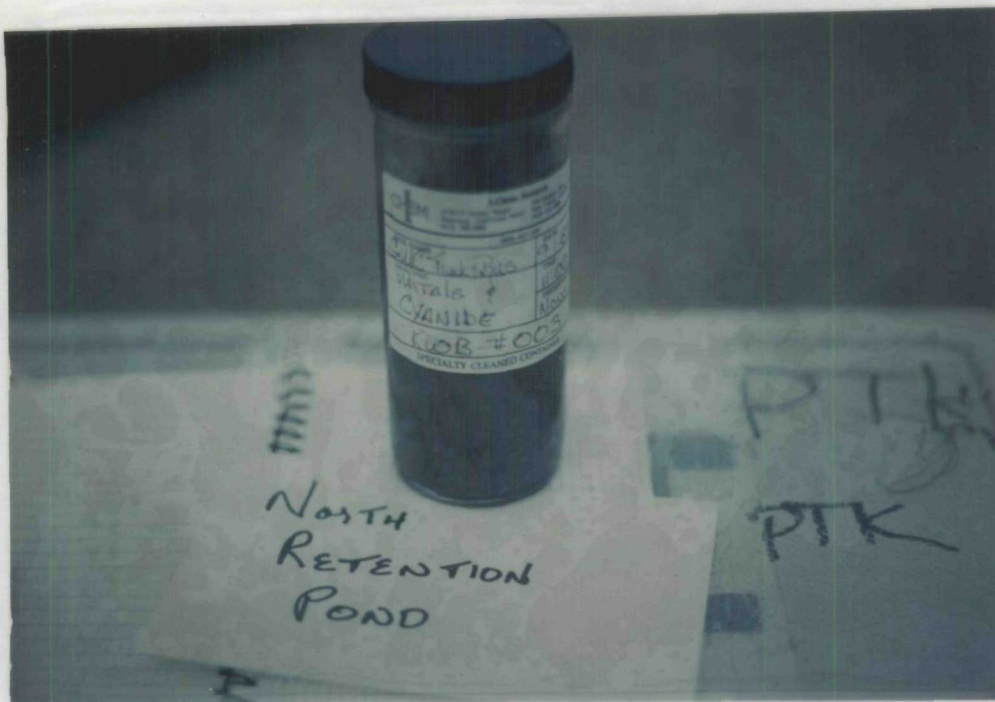
SUPPLEMENTAL PHOTO LOG



1. First background sample taken from under the electrical tower at front lawn picnic area (001).



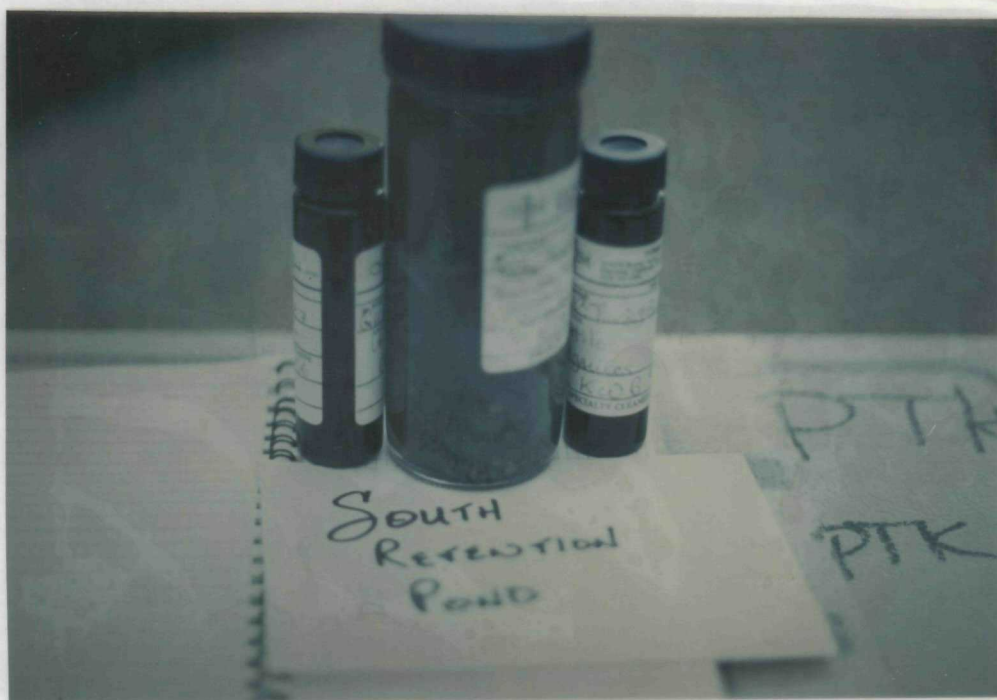
2. Second background sample taken opposite the north retention basin (002).



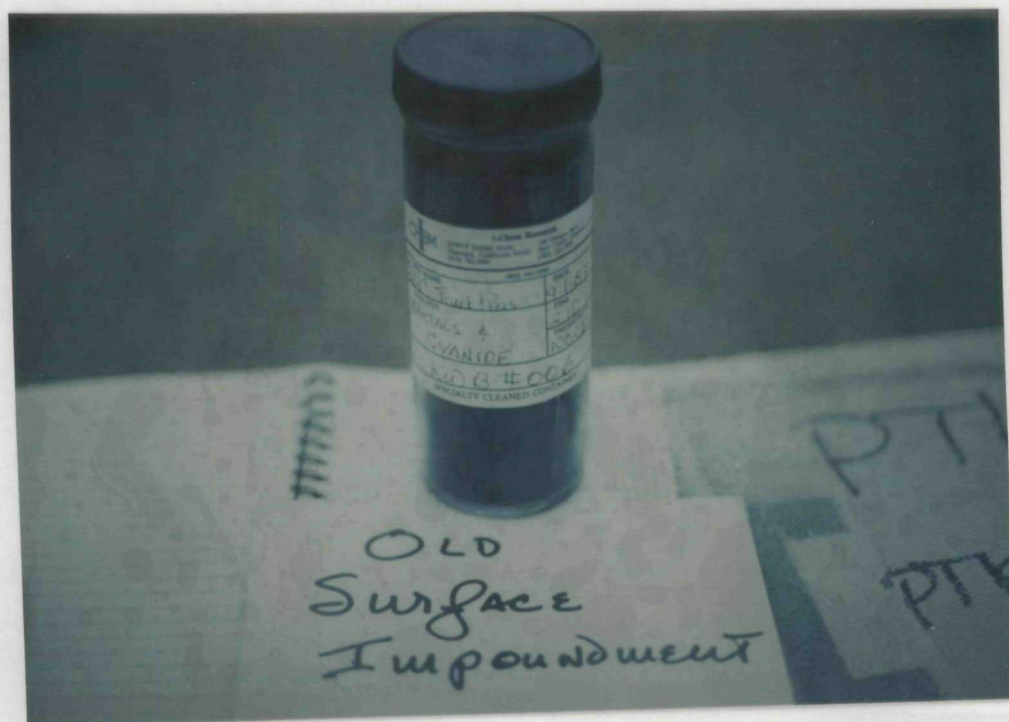
3. Sediment sample taken from ditch leading to north retention pond (003).



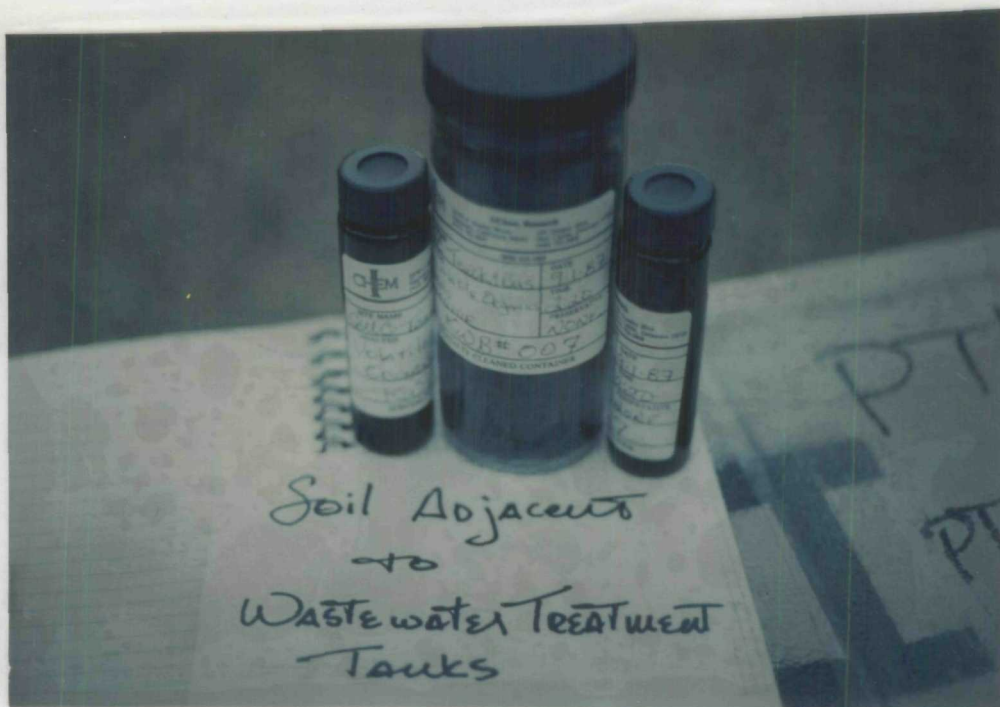
4. Third background sample taken facing north towards south retention pond. (004).



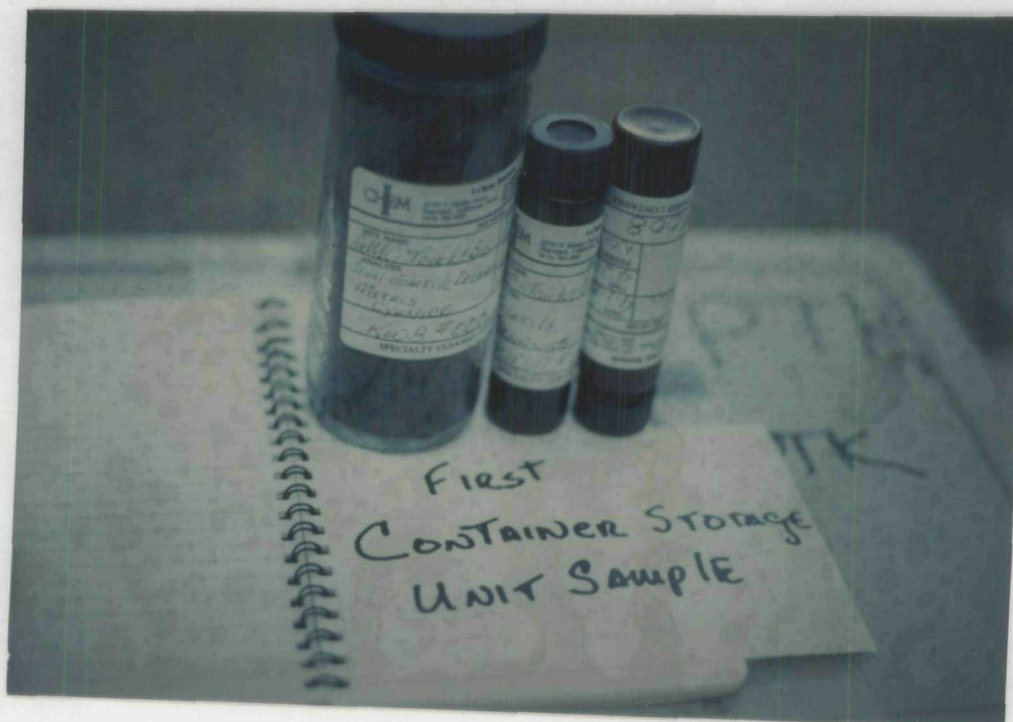
5. Sediment sample from south retention pond (005).



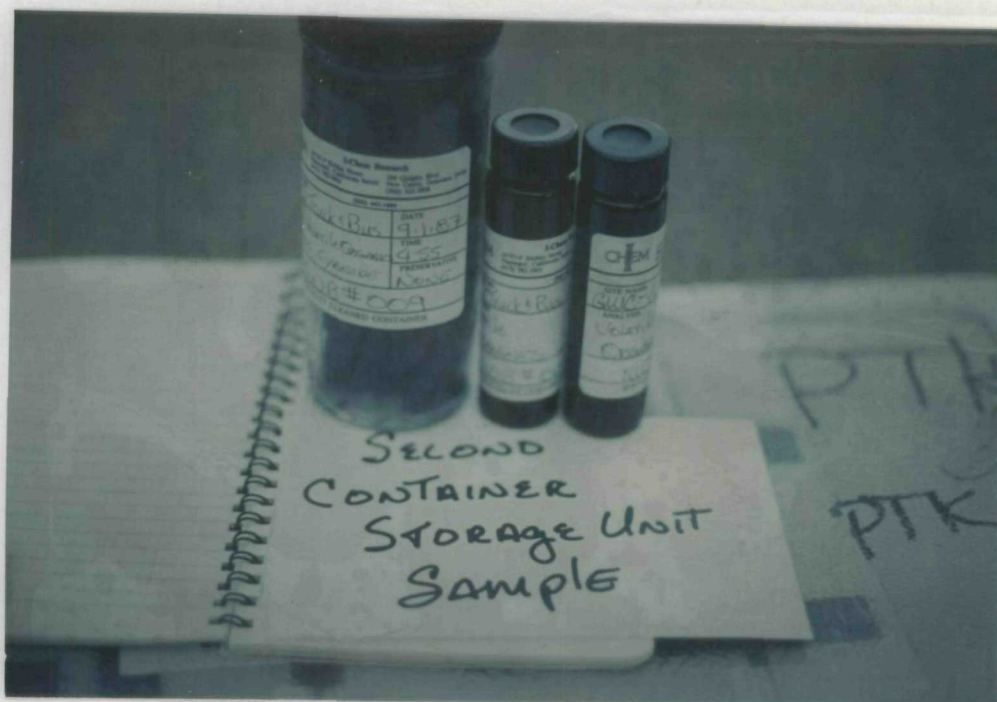
6. Old surface impoundment sample (006).



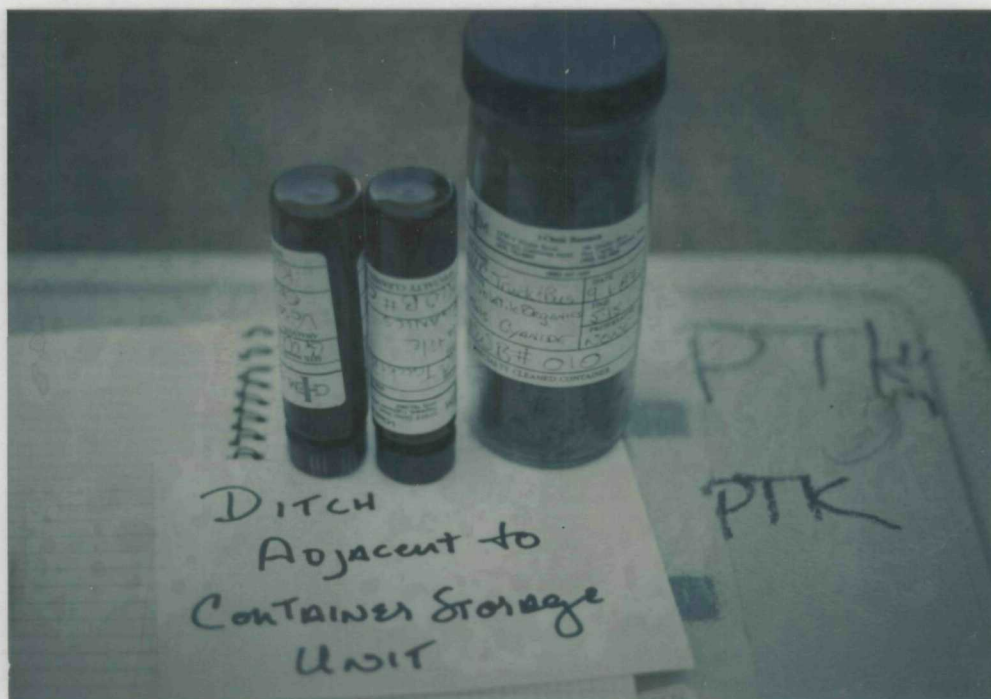
7. Soil sample from wastewater treatment area, unit 29 - acid tank # 1 (007).



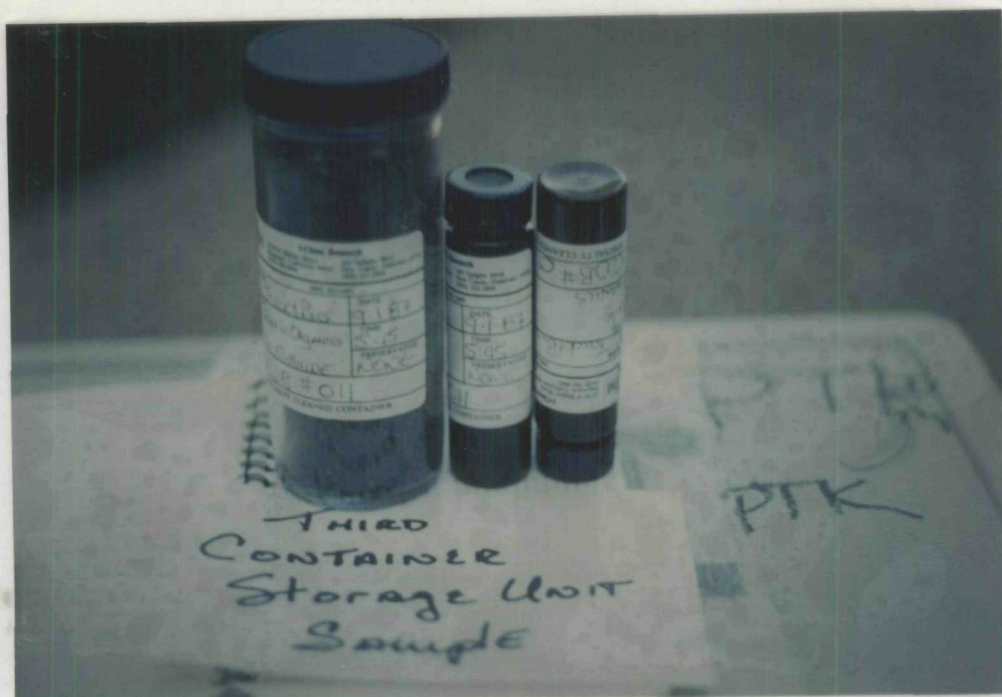
8. Sample taken from container storage area, sample location # 1 (008).



9. Sample taken from container storage area, sampling location # 2 (009).



10. Sample collected from ditch by container storage area (010).



11. Surface sample from container storage area (011)

ATTACHMENT B
Chain-of-Custody Form

Job No. PA 110.61-01-7038	Project Name GMC-Truck and Bus	Location PONTIAC, MI
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Sample Identification	Date	Time	Sample Container (Size/Material)	Sample Type (Liquid, Soil, etc.)	Preservative	Analyses Requested						Comments
						A	B	C	D	E	F	
LE # 001	9/1	9:50	2-40 mL 1-250 mL	Soil	NONE	✓	✓	✓	✓			
002	9/1	10:45	2-40 mL 1-250 mL	Soil	NONE	✓	✓	✓	✓			
003	9/1	11:00	1-250 mL	SEDIMENT	NONE			✓	✓			
004	9/1	12:50	2-40 mL 1-250 mL	Soil	NONE	✓	✓	✓	✓			
005	9/1	1:20	2-40 mL 1-250 mL	SEDIMENT	NONE	✓	✓	✓	✓			
006	9/1	2:10	1-250 mL	Soil	NONE			✓	✓			
007	9/1	3:15	2-40 mL 1-250 mL	Soil	NONE	✓	✓	✓	✓			
008	9/1	4:15	2-40 mL 1-250 mL	Soil	NONE	✓	✓	✓	✓			
009	9/1	4:55	2-40 mL 1-250 mL	Soil	NONE	✓	✓	✓	✓			
010	9/1	5:15	2-40 mL 1-250 mL	SEDIMENT	NONE	✓	✓	✓	✓			
011	9/1	5:45	2-40 mL 1-250 mL	Soil	NONE	✓	✓	✓	✓			

Relinquished By (Signature) 	Date 9/1/87	Time 11:35	Received By (Signature) 	Analyses: A B C D E F
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CHAIN OF CUSTODY RECORD

ATTACHMENT C
Field Log Book



Keuffel & Esser Company

GMC-
Pontiac

Sept. 1, 1987

82 0018

Field Book

8:30 Arrive on site

Meet w/ Dan Harrett
Rick Simpson
Dan Carmichael

Fair - Rly Coy - 65-75°F

Cyanide destruction area -
inside building - conduct USI

6-5555- Security / Emerg.

Agree to conduct USI -
CSU - East

Areas to sample

① Bkg	3
② N. Ret. Pond	1
③ S. Ret. Pond	1
④ OD SI	1
⑤ WW Tank Area	1
⑥ CSU - Central	3
⑦ Ditch adjacent to CSU	1

9:00 BID. 13 - Former loc
Cyanide destruct. area

9:15 - Pick-up samples
containers WWT P

9:30 - First Bkg - CO1

Beneath power tower
adjacent to main
office - (West ~100 yds)

8" walk

3" soil

Sample 11-18"

2. UOA

1. 250ml

1. Split

9:50 - Finish

Brown-Gray Sandy Loam

Grab sample →
up container

BKG #3 004

Brown-grey clay loam →

10:15 - Second Bkg - 002

Near N. Retention Pond

Sample 6 1/2"

Remove 0-6"

Sample 6-12 1/2"

Brown-yellow clay loam

Finish 10:45

10:55 - N. Retention Pond - 003

Approx 24 ft. S of Fence

@ N. Ret. Pond

Sediment Brown sand
w/ black particulate

Finish 11:00

BREAK FOR LUNCH

Bkg # 3 - Adj. S. SFL Imp.
~~S. Surface Impoundment~~ 12:25

Remove 0-2" spc

Auger - 2-6"

12:50 Finish

12:55

005

S. Surface Impoundment

Sediment - ~9 ft NE of
outfall

Gray-Brown - "Mud"

Grab sample w/ corer

1:50 - Old Surface Impoundment

006 Core - 0-12"

Finish 2:10 - Black silty sand

NOTE: Yellow sand (native soil)

@ 8 to ~14"

Wastewater Treatment Tanks

Dark stained sandy soil
w/ blue & red paint flakes

Collect 0 to ~2" surface

Finish - 3:15

Sample collected between
acid tank 2 & 1

Adjacent to Tank #1
Approx. 3 ft. from tank

3:30 Circle CSU w/ dip

Readings from bkg to
approx. 50 (@10x) downwind

Max. Reading 110 (@10x) at
ground level

NOTE: Area much
cleaner than observed
in Jan.; surface soil
appears to have been
removed grassy area
gone; possibly filled in

Area 1 approx S4 E
from south wall (end)
8" 4 1/2 from wall
or

3:50-

Container Storage Unit 008
First Sample

Remove surface to ~1"

Core 1 to ~8"

Brown-Red sandy loam
w/ appreciable black
discoloration

Finish 4:15

C.S.U. - 2nd Sample - 009

Remove surface to 2"

Core 2"-9"

Approx. 10" from wall

Red-yellow sandy loam
with appreciable black
discoloration; some
pink flakes

009 - Finish 9:55

~~CSU 3rd Sample~~

010 - 5:05

Ditch Adjacent to
Container Storage
Unit

Approx 30ft SE of
CSU

Surface to ~4" soil

Yellow-gray sandy silt

Finish 5:15

3rd CSU Sample 011

Approx. 40 ft from West
End CSU

Remove Surface to 2"

Collect 2 to 8" Sample

Yellow red sand

Finish 5:45

ATTACHMENT D

Harding Lawson Associates Quality Assurance Audit

GENERAL MOTORS TRUCK AND BUS GROUP
PONTIAC, MICHIGAN
QUALITY ASSURANCE AUDIT

A sampling visit was conducted by the A. T. Kearney Team at the General Motors Truck and Bus facility on September 1, 1987. All samples were collected according to the approved sampling plan or as approved by the EPA Technical Monitor. Minor deviations from the plan were necessary because of field conditions encountered during the sampling event. All deviations from the plan were made in accordance with approved sampling protocols and should not affect the quality of the samples collected.

Background samples (001, 002, and 003) were collected from three locations believed to be free of contamination. These samples should provide a good indication of native soil conditions and naturally occurring constituents.

A soil sample could not be collected in the Cyanide Destruction Area as planned, because this location had been covered with a concrete slab when Building No. 13 was constructed in about 1967. There was no access to soil in this area.

An unplanned sample was collected (in place of the Cyanide Destruction Area sample) from the surface of the drainage ditch near the Container Storage Area (010). This ditch apparently receives runoff from the Container Storage Area and Storage Yard and should provide a good indication of contaminants which may be escaping from this area.

Sediment samples collected from the South Retention Pond (005) and the North Retention Pond Area (003) were collected using an alternative sampling method. This deviation was necessary because the footing in the area was poor. The deviation should not adversely affect the quality of the sediment samples collected. All other samples were collected according to the approved sampling plan.

In conclusion, the deviations made from the sampling plan should not affect the representative quality of the samples collected. Samples collection, handling, and packaging were conducted according to standard protocol, and the overall quality of the sampling event was quite acceptable. The sampling team did an excellent job in conducting the sampling visit.

Elani Gray
Harding Lawson Associates
Quality Control Officer